(EPC02-0001M)

- Two forces, one of 10 N and another of 6 N acts upon a body. The directions of the forces are unknown. The resultant force on the body is

    A)   between 6 and 10 N
    B)   between 4 and 16 N
    C)   more than 6 N
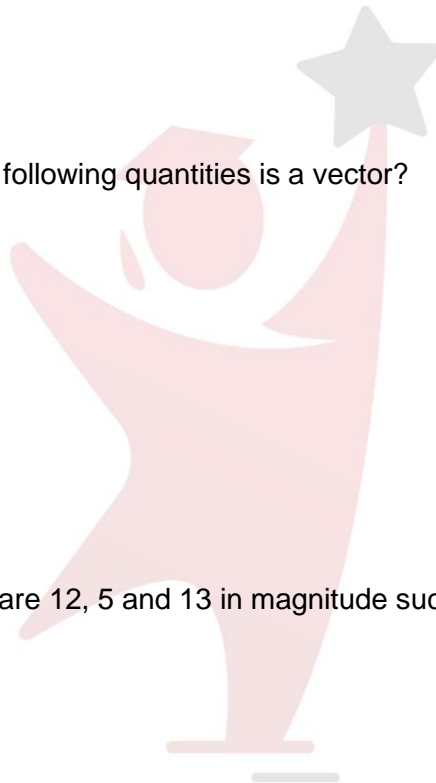   D)   more than 10 N

(EPC02-0002E)

- Which (one or more) of the following quantities is a vector?

    A)   pressure
    B)   power
    C)   current
    D)   angular momentum

(EPC02-0005M)

- If three vectors A, B and C are 12, 5 and 13 in magnitude such that C = A + B, then the angle between A and B is

    A)   60º
    B)   90º
    C)   120º
    D)   none of these

(EPC02-0010H)

- One of the two forces is double the other and their resultant is equal to the greater force. The angle between them is

    A) $\cos^{-1}\left(\frac{1}{2}\right)$
    B) $\cos^{-1}\left(-\frac{1}{2}\right)$
    C) $\cos^{-1}\left(\frac{1}{4}\right)$
    D) $\cos^{-1}\left(-\frac{1}{4}\right)$

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(EPC02-0027M)

- If two forces F and G act at right angles to each other, their resultant has the magnitude.

  A) $\sqrt{F^2 + G^2}$
  B) $F + G$
  C) $(F + G)/2$
 D) $\sqrt{F^2 - G^2}$

(EPC02-0032M)

- The angle between the vector 2i + 3j and the y-axis is

  A) $\tan^{-1}\left(\frac{3}{2}\right)$
  B) $\tan^{-1}\left(\frac{2}{3}\right)$
  C) $\sin^{-1}\left(\frac{2}{3}\right)$
  D) $\cos^{-1}\left(\frac{2}{3}\right)$

(EPC02-NE-31H)

- A vector having zero magnitude is called
  A) A free vector
  B) A unit vector
  C) Position vector
  D) A null vector

(EPC02-NE-32M)

- A body constrained to move in the y-direction, is subjected to a force F = -2i + 15j + 6k N. The work done by this force in moving the body a distance of 10 m along the y-axis is
  A) 190 J
  B) 160 J
  C) 20 J
  D) 150 J
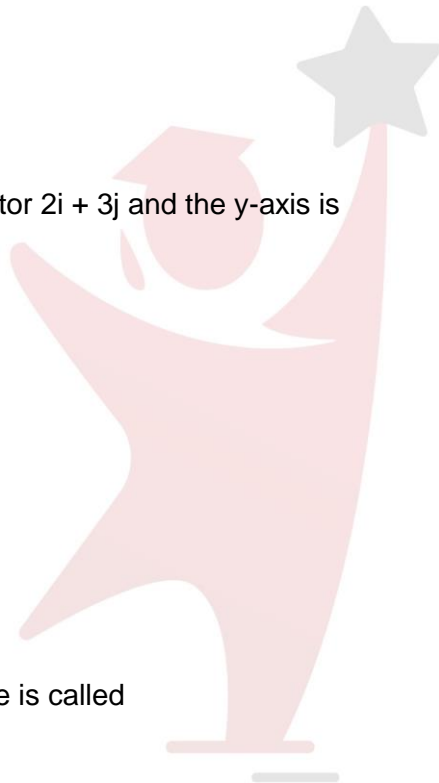
(EPC02-NE-33M)

- Which of the following is not a vector quantity
  - A) Speed
  - B) Velocity
  - C) Torque
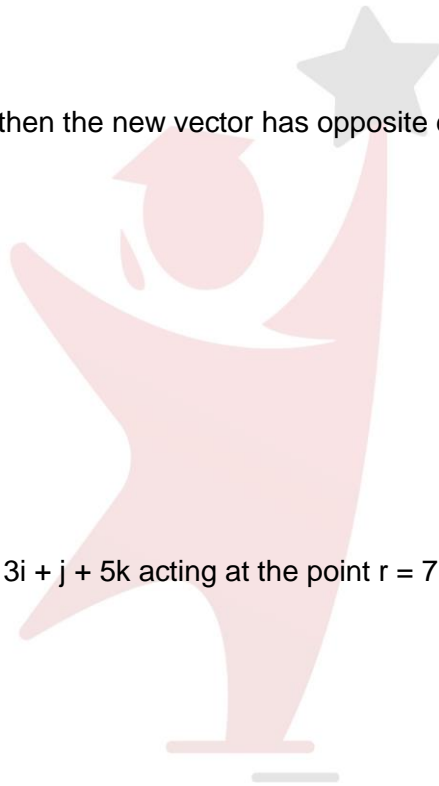 - D) Displacement

(EPC02-NE-34M)

- If we multiply a vector A by -1, then the new vector has opposite direction but has
  - A) Different magnitude
  - B) Same magnitude
  - C) Greater magnitude
  - D) Smaller in magnitude

(EPC02-NE-35E)

- Find the torque of a force F = - 3i + j + 5k acting at the point r = 7i + 3j + k
  - A) 14i – 38j + 16k
  - B) 4i + 4j + 6k
  - C) – 21i + 4j + 4k
  - D) -14i + 34j – 16k

(EPC02-NE-36M)

- The cross product of vector F with itself is equal to
  - A) F
  - B) 2F
  - C) Zero
  - D) 1

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(EPC02-NE-37E)

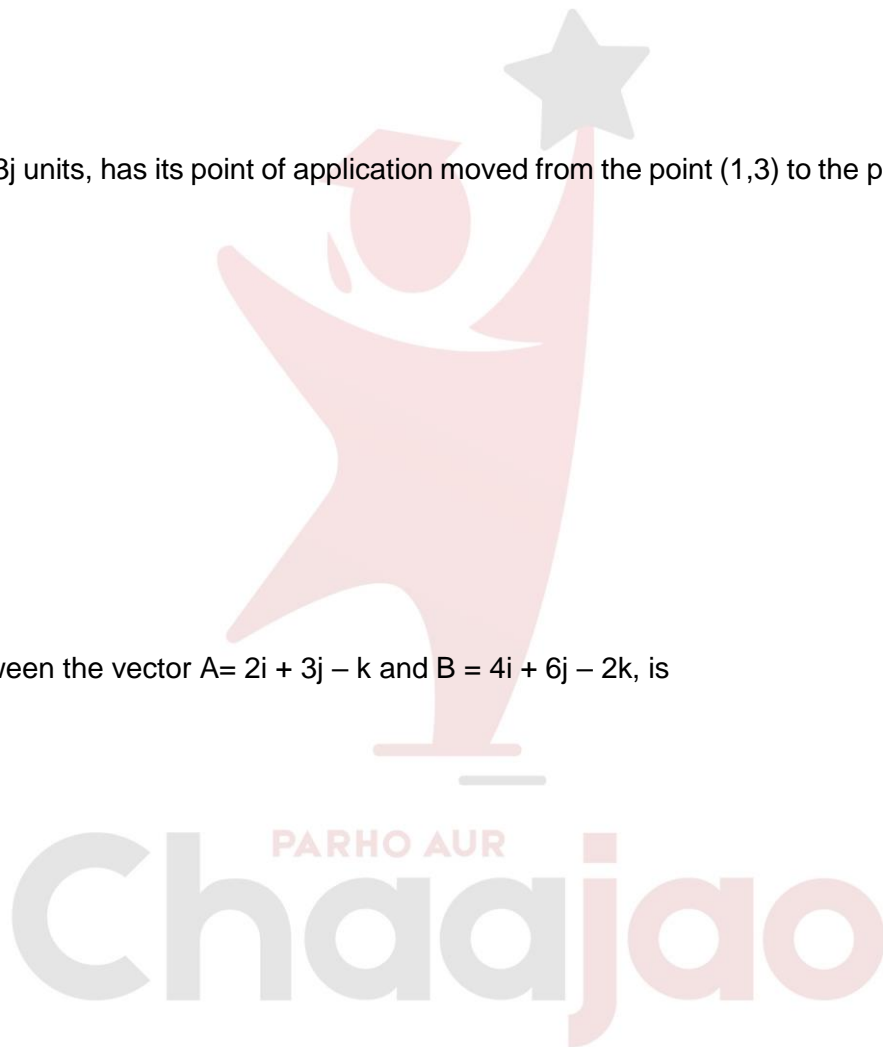- If A = Ai, B = Bj, then A. B is equal to
  A) Zero
  B) A
  C) A^2
  D) $- A$

(EPC02-NE-38M)

- A force F = 2i+3j units, has its point of application moved from the point (1,3) to the point (5,7). Work done is
  A) 20
  B) 30
  C) 40
  D) 50

(EPC02-NE-39M)

- The angle between the vector A= 2i + 3j – k and B = 4i + 6j – 2k, is
  A) 0
  B) 60
  C) 90
  D) 180

Answer Key	
1	**B**
2	**D**
3	**B**
4	**D**
5	**A**
6	**B**
7	**D**
8	**D**
9	**B**
10	**A**
11	**A**
12	**C**
13	**A**
14	**A**
15	**D**

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